

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-25. (Canceled).

26. (Currently Amended) A system for the controlled release or exposure of reservoir contents comprising:

a microchip device comprising a substrate, a plurality of reservoirs in said substrate, reservoir contents in said reservoirs, and means for selectively controlling release or exposure of said reservoir contents, wherein the reservoir contents comprises a sensor which measures intrinsic electrical signals or loads on tissue structures *in vivo*; and

a telemetry system for the wireless transfer of data between the microchip device and a remote controller, wherein the telemetry system is adapted to transmit transmits data from the microchip device sensor to the remote controller.

27. (Previously Presented) The system of claim 26, wherein the means comprises actuation electronics to selectively open the reservoirs.

28. (Original) The system of claim 27, wherein the actuation electronics comprises components selected from the group consisting of multiplexers, demultiplexers, signal generators, signal oscillators, amplifiers, switches, potentiostats, and combinations thereof.

29. (Original) The system of claim 28, further comprising a local controller for controlling the actuation electronics.

30. (Original) The system of claim 29, wherein the local controller comprises components selected from the group consisting of microprocessors, read only memory, random access memory, clocks, analog input/output devices, digital input/output devices, programmable logic circuits, and combinations thereof.

31. (Original) The system of claim 30, wherein the local controller can wirelessly communicate with the remote controller of the telemetry system.

32. (Original) The system of claim 31, wherein the data transfer is accomplished using a first coil in the microchip device to inductively couple electromagnetic energy to a corresponding coil in the remote controller.

33. (Original) The system of claim 26, wherein the microchip device comprises a receiver which comprises a component selected from the group consisting of photocells, photodiodes, phototransistors, and ultrasonic receivers.

34. (Original) The system of claim 26, wherein the remote controller comprises a light-emitting diode, a laser, or an ultrasonic transmitter.

35. (Canceled).

36. (Currently Amended) The system of claim 26, wherein each reservoir has a reservoir cap positioned on the reservoir over the reservoir contents, and wherein ~~release or~~ exposure of the reservoir contents is controlled by ~~diffusion through or~~ disintegration of the reservoir cap.

37. (Original) The system of claim 36, wherein the microchip device further comprises a cathode, wherein at least one reservoir cap is an anode, and an electric potential is applied between the cathode and anode to oxidize the reservoir cap and expose the reservoir contents to a surrounding fluid.

38. (Original) The system of claim 35, wherein the microchip device is adapted for implantation onto or in the eye of a human or animal, and wherein the remote controller comprises an ophthalmic laser.

39. (Original) The system of claim 35, wherein the microchip device is adapted for administration *in vivo*, and wherein the remote controller comprises a radio frequency transmitter.

40-42. (Canceled).

43. (Original) The system of claim 26, further comprising a rechargeable or on-demand power source which comprises a local component which can wirelessly receive power from a remote transmitter.

44-51. (Canceled).

52-55. (Canceled).

56. (Currently Amended) A system for the controlled ~~release or exposure of reservoir contents~~ a biosensor comprising:

an implantable medical device comprising a substrate, a plurality of reservoirs containing ~~reservoir contents biosensors~~ for ~~release or exposure~~, reservoir caps positioned on the reservoir over the ~~reservoir contents biosensors~~ which measures intrinsic electrical signals or loads on tissue structures *in vivo*, an electric power source and actuation electronics to control and direct the power wherein release or exposure of the ~~reservoir contents~~ in each reservoir is controlled by disintegration of the reservoir cap thereover to disintegrate the reservoir caps and expose the biosensor; and

a telemetry system for the wireless transfer of data between the implantable medical device and a remote controller, wherein the telemetry system ~~transmits is adapted to~~ transmit data from the implantable medical device biosensors to the remote controller.

57-58. (Canceled).

59. (Previously Presented) The system of claim 56, wherein the reservoir cap consists essentially of a metal film.

60. (Canceled).

61. (Currently Amended) The system of ~~claim 60~~ claim 56, wherein the substrate comprises silicon and the reservoir cap comprises a metal film.

62. (New) The system of claim 26, wherein the intrinsic electrical signal is an electrocardiogram or electroencephalogram.

63. (New) The system of claim 56, wherein the intrinsic electrical signal is an electrocardiogram or electroencephalogram.

64. (New) An implantable medical device for sensing comprising:
a substrate;
at least two discrete reservoirs in said substrate;
a biosensor located inside each of said at least two discrete reservoirs;
at least two discrete reservoir caps sealing the biosensors inside the reservoirs;
an electric power source and actuation electronics for controlling and directing power to the reservoir caps to disintegrate the reservoir caps and expose the biosensors; and
wireless means or hardwires for the transfer of biosensor data between the implantable medical device and a pacemaker or defibrillator.

65. (New) The medical device of claim 64, wherein the biosensor can transduce the chemical potential of an analyte of interest into an electrical signal.

66. (New) The medical device of claim 64, wherein the substrate comprises silicon and the reservoir caps comprise a metal film.